**DECLARATION**COPY OF PAPERS
ORIGINALLY FILED

As a below named inventor, I declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: **FAULT MANAGEMENT IN A VDSL NETWORK** the specification of which ____ is attached hereto or X was filed on August 1, 2001 as Application No. 09/921,277 and was amended on _____ (if applicable).

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56. I claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Country	Application No.	Date of Filing	Priority Claimed Under 35 USC 119

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

Application No.	Filing Date
60/222,791	August 1, 2000

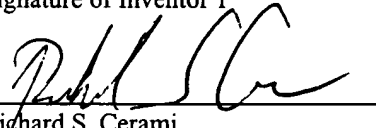
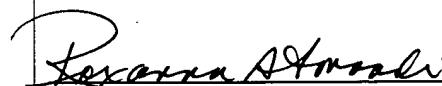
I claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application No.	Date of Filing	Status

Full Name of Inventor 1:	Last Name: CERAMI	First Name: RICHARD	Middle Name or Initial:	
Residence & Citizenship:	City: Denver	State/Foreign Country: Colorado	Country of Citizenship: United States	
Post Office Address:	Post Office Address: 1475 Lawrence Street, #400	City: Denver	State/Country: Colorado	Postal Code: 80202
Full Name of Inventor 2:	Last Name: FIGUEROA	First Name: TIMOTHY	Middle Name or Initial:	
Residence & Citizenship:	City: Aurora	State/Foreign Country: Colorado	Country of Citizenship: United States	
Post Office Address:	Post Office Address: 15231 East Hialeah Place	City: Aurora	State/Country: Colorado	Postal Code: 80015

Full Name of Inventor 3:	Last Name: STORAASLI	First Name: ROXANNA	Middle Name or Initial:	
Residence & Citizenship:	City: Denver	State/Foreign Country: Colorado	Country of Citizenship: United States	
Post Office Address:	Post Office Address: 1475 Lawrence Street, 4th Floor	City: Denver	State/Country: Colorado	Postal Code: 80202

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature of Inventor 1  Richard S. Cerami	Signature of Inventor 2 Timothy Figueroa	Signature of Inventor 3  Roxanna Storaasli
Date 10-01-01	Date	Date 10/02/01

DECLARATION

As a below named inventor, I declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: **FAULT MANAGEMENT IN A VDSL NETWORK** the specification of which ____ is attached hereto or X was filed on August 1, 2001 as Application No. 09/921,277 and was amended on _____ (if applicable).

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56. I claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Country	Application No.	Date of Filing	Priority Claimed Under 35 USC 119

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

Application No.	Filing Date
60/222,791	August 1, 2000

I claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application No.	Date of Filing	Status

Full Name of Inventor 1:	Last Name: CERAMI	First Name: RICHARD	Middle Name or Initial:	
Residence & Citizenship:	City: Denver	State/Foreign Country: Colorado	Country of Citizenship: United States	
Post Office Address:	Post Office Address: 1475 Lawrence Street, #400	City: Denver	State/Country: Colorado	Postal Code: 80202
Full Name of Inventor 2:	Last Name: FIGUEROA	First Name: TIMOTHY	Middle Name or Initial:	
Residence & Citizenship:	City: Aurora	State/Foreign Country: Colorado	Country of Citizenship: United States	
Post Office Address:	Post Office Address: 15231 East Hialeah Place	City: Aurora	State/Country: Colorado	Postal Code: 80015

Full Name of Inventor 3:	Last Name: STORAASLI	First Name: ROXANNA	Middle Name or Initial:	
Residence & Citizenship:	City: Denver	State/Foreign Country: Colorado	Country of Citizenship: United States	
Post Office Address:	Post Office Address: 1475 Lawrence Street, 4th Floor	City: Denver	State/Country: Colorado	Postal Code: 80202

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature of Inventor 1	Signature of Inventor 2	Signature of Inventor 3
<u>Richard S. Cerami</u>	<u>Timothy Figueroa</u>	<u>Roxanna Storaasli</u>
Date	Date	Date

ASSIGNMENT OF PATENT APPLICATION

JOINT

WHEREAS, Richard S. Cerami of 1475 Lawrence Street, #400, Denver, CO 80202; Timothy Figueroa of 15231 East Hialeah Place, Aurora, CO 80015; Roxanna Storaasli of 1475 Lawrence Street, 4th Floor, Denver, CO 80202; hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: **FAULT MANAGEMENT IN A VDSL NETWORK**

Date(s) of execution of Declaration:

Filing Date: August 1, 2001

Application No.: 09/921,277; and

WHEREAS, Qwest Communications International, Inc., a corporation of the state of Delaware, located at 1801 California Street, Suite 3800, Denver, CO, 80202-2658, hereinafter referred to as "ASSIGNEE," is desirous of acquiring an interest in the invention and application and in any U.S. Letters Patent and Registrations which may be granted on the same;

For good and valuable consideration, receipt of which is hereby acknowledged by Assignors, Assignors have assigned, and by these presents do assign to Assignee all right, title and interest in and to the invention and application and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignors had this Assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignors further agree that they will, without charge to Assignee, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer, and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

Assignors hereby authorize and request Townsend and Townsend and Crew LLP, Two Embarcadero Center, 8th Floor, San Francisco, CA 94111-3834, to insert herein above the application number and filing date of said application when known.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

Dated: _____

Richard S. Cerami

STATE OF)
)
COUNTY OF) ss.

On _____, before me, _____,
personally appeared Richard S. Cerami, personally known to me (or proved to me on the basis of satisfactory
evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she
executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the
entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

NOTARY PUBLIC

My Commission Expires: _____

Dated: _____

Timothy Figueroa

STATE OF)
)
COUNTY OF) ss.

On _____, before me, _____,
personally appeared Timothy Figueroa, personally known to me (or proved to me on the basis of satisfactory
evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she
executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the
entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

NOTARY PUBLIC

My Commission Expires: _____

Dated: _____

Roxanna Storaasli

STATE OF)

)

ss.

COUNTY OF)

On _____, before me, _____,
personally appeared Roxanna Storaasli, personally known to me (or proved to me on the basis of satisfactory
evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she
executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the
entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

NOTARY PUBLIC

My Commission Expires: _____